REMARKS

Claims 1-9 and 50-64 are pending in the present application with claims 1 and 57 being independent.

Applicants note with appreciation the Examiner's indication that claims 2-5, 8, 8, 51-53, and 59-62 contain allowable subject matter.

Reconsideration and allowance are respectfully requested in view of the following remarks.

Specification Objections

The title is objected to as allegedly not being descriptive. This objection is respectfully traversed. The title of the application is "Method and Apparatus for Automatic <u>Object Identification</u>". Independent claim 1 is directed to a method for <u>identifying objects</u> in an image. Independent claim 57 is directed to a computer-readable recording medium having a computer program recorded thereon that causes a computer to <u>identify objects</u> in an image. Accordingly, each of pending claims 1-9 and 50-64 include features related to <u>object identification.</u> In view of the foregoing, Applicants respectfully submit that the title of the application clearly indicative of the invention to which the claims are directed, in compliance with MPEP 606.01. Furthermore, Applicants respectfully submit that the title complies with the 37 CFR § 1.72 requirement that the title "must be as short and specific as possible." Reconsideration and withdrawal of the objection are respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 6, 50, 54-58, 63 and 64 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Cham ("A Statistical Framework for Long-Range Feature Matching in Uncalibrated image Mosaicing," hereinafter "the Cham paper") in view of Cham et al. (U.S. Patent No. 6,618,490, hereinafter "the '490 patent").

Claim 7 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over the Cham paper in view of the '490 patent and Hsu (U.S. Patent No. 5,640,468).

These rejections are respectfully traversed, for at least the following reasons.

Claim 1 recites a method for identifying objects in an image. The method of claim 1 comprises receiving an image with a first resolution, where the image represents a scene that includes physical objects. The method of claim 1 comprises transforming the image at the first resolution to an image at a second resolution, where the first resolution is higher than the second resolution.

In addition, the method of claim 1 comprises processing the image at the second (lower) resolution to identify an object among the physical objects in the image at the second (lower) resolution. The method of claim 1 also comprises selecting a detection algorithm from among plural detection algorithms based on a condition associated with the object identified at the second (lower) resolution.

Furthermore, the method of claim 1 comprises processing the image at the first resolution using the object identified at the second (lower) resolution to identify another object from among the physical objects in the image at the first (higher) resolution according to the selected detection algorithm.

In other words, claim 1 recites that a condition associated with an object identified at a <u>lower resolution</u> is used to select a detection algorithm, and the selected detection algorithm is used to identify another object at a <u>higher resolution.</u>

The Cham paper discloses a method of matching features in images. Data from a low resolution level is used to compute a weak hypothesis, expressed as a probability density. When advancing from the low resolution level to higher resolution levels, it is checked to see if the hypothesis was correct (i.e. the change in probability density peaks is determined as shown in Fig. 1). An estimator is determined based on this checking of the hypothesis (i.e. change of the probability density peaks). See, for example, section 2 of the Cham paper.

The Examiner alleges that the determined estimator of the Cham paper corresponds to a detection algorithm that is selected based on a condition associated with an object identified at the second (lower) resolution, as recited in claim 1. In particular, the Examiner alleges that the left, lower resolution side of Fig. 1 of the Cham paper has a condition which selects the preferred estimator. However, in the Cham paper, it is not the left, lower resolution side of Fig. 1 that determines the preferred estimator but the <u>right, higher resolution side of Fig. 1.</u> Because the estimator is determined at the <u>higher</u> resolution, the Cham paper does not select a detection algorithm from among plural detection algorithms based on a condition associated with the object identified at the second <u>(lower)</u> resolution, as recited in claim 1.

On the contrary, the <u>higher</u> resolution side of Fig. 1 is used to select an estimator from among different estimators. The Cham paper does not select a detection algorithm from among plural detection algorithms based on a condition

associated with an <u>object identified at a lower resolution</u>. Instead, the Cham paper computes a weak hypothesis based on the initial processing at the lower resolution. However, the weak hypothesis is not selected from among plural detection algorithms.

Furthermore, the weak hypothesis is an initial hypothesis based on the processing at the lower resolution. The initial hypothesis is not selected from among different hypotheses. The initial hypothesis, once formulated, is then used to determine whether processing at a <u>higher</u> resolution confirms the accuracy of the initial hypothesis. The particular estimator chosen to further process the <u>higher</u> resolution data is based on the level of accuracy of the initial hypothesis formulated at the lower resolution. In other words, the Cham paper discloses a technique in which an initial hypothesis is determined based on lower resolution data, and then the initial hypothesis is compared against higher resolution data to determine the accuracy of the initial hypothesis.

This iterative process of the Cham paper does not result in or correspond to the claim 1 steps of processing the image at the second (lower) resolution to identify an object from among physical objects in the image at the second (lower) resolution, selecting a detection algorithm from among plural detection algorithms <u>based on a condition associated with the object identified at the second (lower) resolution</u>, and processing the image at the first (higher) resolution using the object identified at the second (lower) resolution to identify another object from among the physical objects in the image at the first (higher) resolution according to the selected detection algorithm.

The '490 patent does not remedy the deficiencies of the Cham paper for failing to disclose at least the selecting step of claim 1. The Cham paper and the '490 patent, whether considered alone or in the combination alleged by the Examiner, do not disclose or suggest all of the features of claim 1. Accordingly, claim 1 is allowable.

Claim 57 is allowable for at least similar reasons to those presented above with respect to claim 1. Claims 2-9, 50-56, and 58-64 are allowable by virtue of their dependency from allowable claims 1 and 57, and on their own merits.

Conclusion

From the foregoing, further and favorable action in the form of a Notice of Allowance is respectfully requested.

In the event that there are any questions concerning this amendment, or the application in general, the Examiner is respectfully requested to telephone the undersigned so that prosecution of present application may be expedited.

Respectfully submitted,

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